

Detecting Susceptibility to Intergranular Attack in Austenitic Stainless Steel” (IBR, see §171.7 of this subchapter), and must exhibit corrosion rates not exceeding the following: * * *

Test procedures	Material	Corrosion rate i.p.m.
Practice B	Types 304L and 316L ..	0.0040
Practice C	Type 304L	0.0020

(ii) Type 304L and 316L test specimens must be given a sensitizing treatment prior to testing.

(d) All attachments welded to tank shell must be of approved material which is suitable for welding to the tank.

[Amdt. 179-10, 36 FR 21344, Nov. 6, 1971, as amended by Amdt. 179-32, 48 FR 27707, June 16, 1983; Amdt. 179-47, 58 FR 50237, Sept. 24, 1993; Amdt. 179-52, 61 FR 28679, June 5, 1996; Amdt 179-52, 61 FR 50255, Sept. 25, 1996; 66 FR 45186, Aug. 28, 2001; 67 FR 51660, Aug. 8, 2002; 68 FR 75759, Dec. 31, 2003]

§ 179.100-8 Tank heads.

(a) The tank head shape shall be an ellipsoid of revolution in which the major axis shall equal the diameter of the shell adjacent to the head and the minor axis shall be one-half the major axis.

(b) Each tank head made from steel which is required to be “fine grain” by the material specification, which is hot formed at a temperature exceeding 1700 °F., must be normalized after forming by heating to a temperature between 1550° and 1700 °F., by holding at that temperature for at least 1 hour per inch of thickness (30-minute minimum), and then by cooling in air. If the material specification requires quenching and tempering, the treatment specified in that specification must be used instead of the one specified above.

[29 FR 18995, Dec. 29, 1964. Redesignated, 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 179-12, 39 FR 15038, Apr. 30, 1974]

§ 179.100-9 Welding.

(a) All joints shall be fusion-welded in compliance with the requirements of AAR Specifications for Tank Cars, appendix W (IBR, see §171.7 of this subchapter). Welding procedures, welders and fabricators shall be approved.

(b) [Reserved]

[29 FR 18995, Dec. 29, 1964, as amended at 65 FR 58632, Sept. 29, 2000; 68 FR 75759, Dec. 31, 2003]

§ 179.100-10 Postweld heat treatment.

(a) After welding is complete, steel tanks and all attachments welded thereto must be postweld heat treated as a unit in compliance with the requirements of AAR Specifications for Tank Cars, appendix W (IBR, see §171.7 of this subchapter).

(b) For aluminum tanks, postweld heat treatment is prohibited.

(c) Tank and welded attachments, fabricated from ASTM A 240/A 240M (IBR, see §171.7 of this subchapter), Type 304L or Type 316L materials do not require postweld heat treatment, but these materials do require a corrosion resistance test as specified in §179.100-7(c)(2).

[Amdt. 179-10, 36 FR 21345, Nov. 6, 1971, as amended by Amdt. 179-47, 58 FR 50238, Sept. 24, 1993; Amdt. 179-52, 61 FR 28679, June 5, 1996; 67 FR 51660, Aug. 8, 2002; 68 FR 75758 and 75759, Dec. 31, 2003]

§ 179.100-12 Manway nozzle, cover and protective housing.

(a) Manway nozzles must be of approved design of forged or rolled steel for steel tanks or of fabricated aluminum alloy for aluminum tanks, with an access opening of at least 18 inches inside diameter, or at least 14 inches by 18 inches around or oval. Each nozzle must be welded to the tank and the opening reinforced in an approved manner in compliance with the requirements of AAR Specifications for Tank Cars, appendix E, Figure E10 (IBR, see §171.7 of this subchapter).

(b) Manway cover shall be machined to approved dimensions and be of forged or rolled carbon or alloy steel, rolled aluminum alloy or nickel when required by the lading. Minimum thickness is listed in §179.101. Manway cover shall be attached to manway nozzle by through or stud bolts not entering tank, except as provided in §179.103-2(a).

(c) Except as provided in §179.103, protective housing of cast, forged or fabricated approved materials must be bolted to manway cover with not less